UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/616,848	07/10/2003	James R. Gallagher	AUS920030469US1	1738

35525 7590 09/13/2006

IBM CORP (YA)
C/O YEE & ASSOCIATES PC
P.O. BOX 802333
DALLAS, TX 75380

EXAMINER	
TRUONG, LOAN	
ART UNIT	**PAPER NUMBER**
2114	

DATE MAILED: 09/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/616,848	GALLAGHER ET AL.	
	Examiner	Art Unit	
	LOAN TRUONG	2114	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 June 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *7/10/2003* is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This office action is in response to the amendment filed June 28, 2006 in application 10/616,848.

2. Examiner acknowledged that claims 1-22 are presented for examination; Claims 1, 4, 8, 11, 15, 18 and 22 have been amended.

3. Examiner acknowledged the amended of claim 15 in regard to 35 U.S.C 101 rejection of a computer readable to a recordable-type medium.

Response to Arguments

4. Applicant's arguments with respect to claims 1-22 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 1-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mahalingham et al. (US 6,314,525) in further view of Kurapati et al. (US 7,007,190).

In regard to claim 1, Mahalingham et al. teach a method in a device driver for handling a failure of a primary adapter in a data processing system, the method comprising:

monitoring the primary adapter for the failure (*MULTISPAN driver continuously monitors the activity of bound adapters, fig. 4, 508, col. 11 lines 49-63)*; and

responsive to detecting the failure, switching to a standby adapter handled by the device driver (*when primary fails, one of the adapter in "READY" state is changed to "IN_USE", fig. 2, 62, col. 11 lines 32-48).*

Mahalingham et al. does not explicitly teach the method of queuing data in a data queue used by the primary adapter and in response to detecting a failure wherein the standby adapter uses the data in the data queue.

Kurapati et al. disclosed the method of data replication for redundant network components by implementing a shared memory queue (*fig. 6, 120, col. 9 lines 10-19)* and heap memory queue of message queue (*fig. 6, 110, col. 9 lines 10-12),* which may be designated to provide data to a specific process (*fig. 2, 50).* The shared memory also provides efficient communication between processes by allowing one process to write data to shared memory and another process to read the data from shared memory (*fig. 2, 50, 51, col. 11 lines 55-58).* Furthermore, in the case of a detection of an internal fault or

defective process (*col. 13 lines 49-54)* the standby component uses the data of the active component by receiving a replication of that data before it enters active mode. The data replicator sends replication data to network component 12b (*fig. 11, 230, col. 13 lines 56-63).*

It would have been obvious to modify the method of Mahalingham et al. by adding Kurapati et al. method of data replication for redundant network components. A person of ordinary skill in the art at the time of applicant's invention would have been motivated to make the modification because it would provide a reliable data replication (*col. 2 lines 18-20).*

In regard to claim 2, Mahalingham et al. disclosed the method of claim 1, wherein the failure is an occurrence of at least one of a network problem and a port problem (*network adapter has not received any packets for an extended period of time, col. 11 lines 49-63).*

In regard to claim 3, Mahalingham et al. disclosed the method of claim 1, wherein the primary adapter is on a first port and the standby adapter is on a second port and wherein the switching step comprises:

switching from the first port to the second port to switch to the standby adapter (*If failed NIC was a primary adapter, secondary NIC become the primary adapter, fig. 2, 62, col. 11 lines 18-25).*

In regard to claim 4, Mahalingham et al. disclosed the method of claim 3, wherein the first port is assigned an alternative media access control address prior to a switch from the primary adapter to the standby adapter and wherein the switch from the first port to the second port is made by assigning the second port to an alternative media access control address (*MULTISPAN reset and changes the address of the primary adapter to the address generated from Virtula Network Address and changes the network address of secondary adapter to the MULTISPAN Virtual Network Address and uses it as the primary adapter, col. 14 lines 5-22).*

In regard to claim 5, Mahalingham et al. disclosed the method of claim 3 further comprising: initiating a soft reset of the first port (*if adapter is fixed it is changed to "READY" state, col. 12 lines 10-14).*

In regard to claim 6, Mahalingham et al. disclosed the method of claim 1, wherein the primary adapter is a network adapter (*network interface card, NIC, fig. 1, 18, col. 5-22).*

In regard to claim 7, Mahalingham et al. disclosed the method of claim 1, wherein the primary adapter is a graphics adapter (*PCI slots, fig. 14A, 1670, col. 24 lines 43-53).*

It is inherent that peripheral component interconnect (PCI) was used for older video cards or graphic adapter (*http://en.wikipedia.org/wiki/Graphips_adapter* 3/13/2006).

In regard to claim 8, Mahalingham et al. disclosed a data processing system for handling a failure of a primary adapter in a data processing system, the data processing system comprising:

monitoring means for monitoring the primary adapter for the failure (*MULTISPAN driver continuously monitors the activity of bound adapters, fig. 4, 508, col. 11 lines 49-63)*; and

switching means for switching to a standby adapter (*when primary fails, one of the adapter in "READY" state is changed to "IN_USE", fig. 2, 62, col. 11 lines 32-48)* handled by the device driver responsive to detecting the failure (*MULTISPAN driver, fig. 4, 508, col. 11 lines 26-31).*

Mahalingham et al. does not explicitly teach the method of queuing data in a data queue used by the primary adapter and in response to detecting a failure wherein the standby adapter uses the data in the data queue.

Kurapati et al. disclosed the method of data replication for redundant network components by implementing a shared memory queue (*fig. 6, 120, col. 9 lines 10-19)* and heap memory queue of message queue (*fig. 6, 110, col. 9 lines 10-12),* which may be designated to provide data to a specific process (*fig. 2, 50).* The shared memory also provides efficient communication between processes by allowing one process to write data to shared memory and another process to read the data from shared memory (*fig. 2, 50, 51, col. 11 lines 55-58).* Furthermore, in the case of a detection of an internal fault or defective process (*col. 13 lines 49-54)* the standby component uses the data of the active component by receiving a replication of that data before it enters active mode. The data

replicator sends replication data to network component 12b (*fig. 11, 230, col. 13 lines 56-63).*

Refer to claim 1 for motivation.

In regard to claim 9, Mahalingham et al. disclosed the data processing system of claim 8, wherein the failure is an occurrence of at least one of a network problem and a port problem (*network adapter has not received any packets for an extended period of time, col. 11 lines 49-63).*

In regard to claim 10, Mahalingham et al. disclosed the data processing system of claim 8, wherein the primary adapter is on a first port and the standby adapter is on a second port and wherein the switching means comprises:

means for switching from the first port to the second port to switch to the standby adapter (*If MULTISPAN driver detects failed NIC primary adapter, secondary NIC become the primary adapter, fig. 2, 62, col. 11 lines 18-25).*

In regard to claim 11, Mahalingham et al. disclosed the data processing system of claim 10, wherein the first port is assigned an alternative media access control address prior to a switch from the primary adapter to the standby adapter and wherein the switch from the first port to the second port is made by assigning the second port to an alternative media access control address (*MULTISPAN reset and changes the address of the primary adapter to the address generated from Virtula Network Address and changes the network address of secondary adapter to the*

MULTISPAN Virtual Network Address and uses it as the primary adapter, col. 14 lines 5-22).

In regard to claim 12, Mahalingham et al. disclosed the data processing system of claim 10 further comprising: initiating means for initiating a soft reset of the first port (*if any adapter including the primary adapter is fixed it is changed to "READY" state, col. 12 lines 10-14).*

In regard to claim 13, Mahalingham et al. disclosed the data processing system of claim 8, wherein the primary adapter is a network adapter (*network interface card, NIC, fig. 1, 18, col. 5-22).*

In regard to claim 14, Mahalingham et al. disclosed the data processing system of claim 8, wherein the primary adapter is a graphics adapter (*PCI slots, fig. 14A, 1670, col. 24 lines 43-53).*

It is inherent that peripheral component interconnect (PCI) was used for older video cards or graphic adapter (*http://en.wikipedia.org/wiki/Graphips_adapter* 3/13/2006).

In regard to claim 15, Mahalingham et al. disclosed a computer program product in a recordable-type medium for handling a failure of a primary adapter in a data processing system, the computer program product comprising:

second instructions for monitoring the primary adapter for the failure (*send "probe" packets with in a MultiSpan group, col. 4 lines 41-58)*; and

third instructions for switching to a standby adapter (*when primary fails, one of the adapter in "READY" state is changed to "IN_USE", fig. 2, 62, col. 11 lines 32-48)* handled by the device driver responsive to detecting the failure (*MULTISPAN driver, fig. 4, 508, col. 11 lines 26-31).*

Mahalingham et al. does not explicitly teach the method of queuing data in a data queue used by the primary adapter and in response to detecting a failure wherein the standby adapter uses the data in the data queue.

Kurapati et al. disclosed the method of data replication for redundant network components by implementing a shared memory queue (*fig. 6, 120, col. 9 lines 10-19)* and heap memory queue of message queue (*fig. 6, 110, col. 9 lines 10-12),* which may be designated to provide data to a specific process (*fig. 2, 50).* The shared memory also provides efficient communication between processes by allowing one process to write data to shared memory and another process to read the data from shared memory (*fig. 2, 50, 51, col. 11 lines 55-58).* Furthermore, in the case of a detection of an internal fault or defective process (*col. 13 lines 49-54)* the standby component uses the data of the active component by receiving a replication of that data before it enters active mode. The data replicator sends replication data to network component 12b (*fig. 11, 230, col. 13 lines 56-63).*

Refer to claim 1 for motivational statement.

In regard to claim 16, Mahalingham et al. disclosed the computer program product of claim 15, wherein the failure is an occurrence of at least one of a network problem and a port

problem (*network adapter has not received any packets for an extended period of time, col. 11 lines 49-63).*

In regard to claim 17, Mahalingham et al. disclosed the computer program product of claim 15, wherein the primary adapter is on a first port and the standby adapter is on a second port and wherein the second instructions comprise:

sub-instructions for switching from the first port to the second port to switch to the standby adapter (*If MULTISPAN driver detects failed NIC primary adapter, secondary NIC become the primary adapter, fig. 2, 62, col. 11 lines 18-25).*

In regard to claim 18, Mahalingham et al. disclosed the computer program product of claim 17, wherein the first port is assigned an alternative media access control address prior to a switch from the primary adapter to the standby adapter and wherein the switch from the first port to the second port is made by assigning the second port to an alternative media access control address (*MULTISPAN reset and changes the address of the primary adapter to the address generated from Virtula Network Address and changes the network address of secondary adapter to the MULTISPAN Virtual Network Address and uses it as the primary adapter, col. 14 lines 5-22).*

In regard to claim 19, Mahalingham et al. disclosed the computer program product of claim 17 further comprising:

fourth instructions for initiating a soft reset of the first port (*if any adapter including the primary adapter is fixed it is changed to "READY" state, col. 12 lines 10-14).*

In regard to claim 20, Mahalingham et al. disclosed the computer program product of claim 15, wherein the primary adapter is a network adapter (*network interface card, NIC, fig. 1, 18, col. 5-22).*

In regard to claim 21, Mahalingham et al. disclosed the computer program product of claim 15, wherein the primary adapter is a graphics adapter (*PCI slots, fig. 14A, 1670, col. 24 lines 43-53).*

It is inherent that peripheral component interconnect (PCI) was used for older video cards or graphic adapter (*http://en.wikipedia.org/wiki/Graphips_adapter* 3/13/2006).

In regard to claim 22, Mahalingham et al. disclosed a server data processing for obtaining cultural context information from a client, the server data processing system comprising:

a bus system (*network backbone, fig. 3, 12, col. 7 lines 61-64)*;

a communications unit connected to the bus system (*server computer, fig. 3, 10, col. 6 lines 21-39)*;

a memory connected to the bus system, wherein the memory includes a set of instructions (*software modules, col. 6 lines 21-39)*; and

a processing unit (*MULTISPAN processes, col. 6 lines 46-57)* connected to the bus system, wherein the processing unit executes instructions for a device driver to monitor the

primary adapter for the failure and, switch to a standby adapter handled by the device driver in response to detecting the failure (*perform a transparent fail-over when primary adapter fails, col. 6 lines 46-57).*

Mahalingham et al. does not explicitly teach the method of queuing data in a data queue used by the primary adapter and in response to detecting a failure wherein the standby adapter uses the data in the data queue.

Kurapati et al. disclosed the method of data replication for redundant network components by implementing a shared memory queue (*fig. 6, 120, col. 9 lines 10-19)* and heap memory queue of message queue (*fig. 6, 110, col. 9 lines 10-12),* which may be designated to provide data to a specific process (*fig. 2, 50).* The shared memory also provides efficient communication between processes by allowing one process to write data to shared memory and another process to read the data from shared memory (*fig. 2, 50, 51, col. 11 lines 55-58).* Furthermore, in the case of a detection of an internal fault or defective process (*col. 13 lines 49-54)* the standby component uses the data of the active component by receiving a replication of that data before it enters active mode. The data replicator sends replication data to network component 12b (*fig. 11, 230, col. 13 lines 56-63).*

Refer to claim 1 for motivational statement.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO 892.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LOAN TRUONG whose telephone number is (571) 272-2572. The examiner can normally be reached on M-F from 8am-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, SCOTT BADERMAN can be reached on (571) 272-3644. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Loan Truong
Patent Examiner
Art Unit: 2114

SCOTT BADERMAN
SUPERVISORY PATENT EXAMINER